Message

From: Goeden, Helen (MDH) [Helen.Goeden@state.mn.us]
Sent: 7/5/2016 9:09:45 PM
To: Wambaugh, John [Wambaugh.John@epa.gov]
CC: Donohue, Joyce [Donohue.Joyce@epa.gov]; James.kelly@state.mn.us
Subject: RE: Modeling of PFOA and PFOS serum concentrations
Attachments: PFOA_ExpoScenar_July2016.xlsx

Here is the second Excel file (PFOA)

Best regards,
Helen

From: Goeden, Helen (MDH)
Sent: Tuesday, July 05, 2016 4:08 PM
To: 'wambaugh.john@epa.gov' <wambaugh.john@epa.gov>
Cc: 'donohue.joyce@epa.gov' <donohue.joyce@epa.gov>; Kelly, James (MDH) <james.kelly@state.mn.us>
Subject: Modeling of PFOA and PFOS serum concentrations

Dear John,
It has been several months since Martin (Phillips) and I spoke with you regarding incorporating infant exposure into human serum concentration calculations for PFOA and PFOS. In our phone conversation we shared that we were trying to evaluate several different exposure scenarios. In particular, bottle fed (reconstituted formula) infant and breast fed infants. Based on our phone conversation and with Martin's assistance Excel spreadsheets were created to facilitate calculation of serum concentrations for these two different exposure scenarios.

I am still reviewing the basis of the EPA RfDs and Health Advisories (HAs). However, I have conducted some preliminary calculations, using the EPA HA values of 0.07 ug/L, to evaluation the two infant exposure scenarios to determine whether there are concerns we should be aware of as we move forward in our review.

Martin has moved onto a different job and modeling is not my area of expertise. Would it be possible for you to look at the attached Excel files and provide informal feedback? I would be very grateful for any feedback you could provide (e.g., is the logic underlying the assumptions and calculations sound, is the math is accurate). The files are quite large so I am attaching only one (PFOS) and will send the second one (PFOA) in a separate email.

The first scenario is based on a bottle-fed infant that ingests formula reconstituted with water containing PFOS or PFOA at the EPA HA value of 0.07 ug/L. Specific assumptions: infant is born with a serum concentration equal to the maternal steady-state serum concentration and life-stage specific water intake rates (95^{th} percentile) and Vds.

The second scenario is based on a breast-fed infant. Specific assumptions: infant is born with a serum concentration equal to the maternal steady-state serum concentration and age-stage specific breast milk intake rates (upper percentile) and Vds. The breast milk concentration is based on several studies which measured both maternal serum concentrations and breast milk concentrations.

The individual worksheets should be fairly self-explanatory but if you need or would like additional information regarding the calculations or inputs please do not hesitate to ask.

I know that you are very busy. Unfortunately our review has a tight turnaround time. If you would prefer to provide feedback via a phone conversation or if you are unable to provide any feedback please let me know.

Thank you for any assistance you can provide.

Best regards,
Helen

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